THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND
ENVIRONMENTAL AFFAIRS
**Department of Agricultural Resources**
251 Causeway Street, Suite 500, Boston, MA 02114
617-626-1700 fax 617-626-1850 www.Mass.gov/AGR

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

SCOTT J. SOARES
Acting Commissioner

Dairy Farm Revitalization Task Force

Approved Meeting Minutes
September 7, 2007
Fuller Conference Center
Old Sturbridge Village
Sturbridge, MA

**Task Force Members Present:**

Ms. Lynne Bohan, processor Representative;
Representative Daniel Bosley, House of Representatives;
Dr. Dwayne Breger, Massachusetts Division of Energy Resources;
Senator Stephan Brewer, State Senate;
Mr. Mark Duffy, farmer Representative;
Ms. Mary Fudeman, Representative Lou Evangelidis, House of Representatives;
Dr. William Gillmeister, appointee, Department of Agricultural Resources;
Senator Michael Knapik, State Senate;
Ms. Mary Jane Bacon, Senator Stanley Rosenberg, State Senate;
Mr. David Shepard, Massachusetts Cooperative of Milk Producers Federation representative;
Mr. Scott Soares, Acting Commissioner Department of Agricultural Resources;
Mr. Greg Watson, appointee, Energy and Environmental Affairs;
Mr. Richard Woodger, Massachusetts Association of Dairy Farmers Representative;

Members of the public were present at the meeting

**1. Call to Order:**

Acting Commissioner Scott Soares called the meeting into order at 9:50 AM. He asked task force members to introduce themselves.

**2. Approval of August 24, 2007 Meeting Minutes**

**Motion:** Representative Stephen Kulik made a motion to approve the minutes. Mr. Greg Watson seconded the motion.

**Discussion:** None

**Vote:** Unanimous

**3. Old Business:**

a. Energy Alternatives

i. Robert Hagevoort Extension Dairy Specialist, Agricultural Science Center, University of New Mexico: Methane Digesters;

Dr. Hagevoort began by discussing the "drivers" behind seeking manure management alternatives and energy alternatives. Such drivers ranged from environmental considerations to oil and energy price increases. He noted that dairy farmers must realize that the manure must become a part of the revenue stream of the farm. The question he posed was what is manure worth. Since there is no real market for the manure, there is no real method for determining its value. He illustrated a number of possibilities: green energy from methane production; soil amendments from solids; reclamation of water for the liquid effluent; or use the liquid effluent for a fertilizer.

Whatever the end the use, Dr. Hagevoort conditioned the discussion on the principle that manure management must be a closed loop system to capture as much value out of the manure as possible. He cited two projects in particular as examples: the Chino Basin Integrated Resources Management and the Pecos Valley Biomass Cooperative. The Chino Basin project consists of 7 dairy farms with a total of 6,250 cows that produce 375 tons of manure a day. The manure is trucked to a mesophilic plug flow digester. The methane generated from the digester is piped to the Chino basin desalination plant that supplies 8,000 gallons of clean water to Chino, Chino Hills, and Jurpa Services district.

The Pecos Valley Biomass Cooperative in the Roswell, New Mexico are consists of 37 dairy farms within an 11 mile radius. The project would locate a digester facility to minimize the transportation costs of moving materials as well as provide a proximity to product output markets. Such output markets include the creation of steam for feed processing, cheese production, or other milk processing facilities. Secondary markets include gas for ethanol production and bio-crude-oil.

Pecos Valley Cooperative has approximately 20,000 cows from which manure would be collected. Feasibility studies have been done for the activities under consideration. They are currently negotiating contracts with an ethanol plant and a cheese plant. They are also looking into syn-gas and other fuel production possibilities.

Dr. Hagevoort notes that manure digesters are not necessarily a panacea. As an illustration, 80% of all manure digesters stand idle, and the reasons vary from low return on investment to the significant management burden. Digesters require 40 to 60 hours a month to operate, which, when added to all the other management requirements on the farm, often becomes unmanageable.

ii. Bill Jorgenson, SJH and Co. Scaleable methane digesters

Acting Commissioner Soares then introduced Bill Jorgenson of SJH and Co. Mr. Jorgenson provided a presentation and began by describing SJH and its services. He noted that SJH works with four categories of agents in the renewable alternative energy sector: the buyers and regulators of energy markets; the farms interested adopting the technology; the financial agents such as First Pioneer Farm Credit; and the technology providers.

He then presented the revenue projections for various sized farms. Revenues included the sale of electricity and carbon credits as well as bedding material from the solid by-product of the digester. The revenues ranged from $148,000 for small herds to $2.7 million for midsized farms. In fact the midsized farm generated the highest revenue, and as farm size increased from that point, revenue decreased precipitously.

The amount of capital investment to construct such digesters averaged approximately $1,750 per cow. However, the capital requirements followed the same pattern as revenues relative to farm size. The smallest herds required the least capital, then jumped to the highest at $11 million for herds in the 100 to 199 size category. For herd sized greater than 200, capital costs decreased to $2.9 million for the very largest farms.

Finally, Mr. Jorgenson overlayed a map of the Commonwealth with dairy farms by herd size categories and natural gas pipe lines to demonstrate the areas with the strongest potential. Those areas included the southern Berkshire County, Franklin and Hampshire Counties, and southern Worcester County. Not only did these areas have concentrations of farms but they also had close proximity to natural gas pipelines. With that he reviewed components that required further feasibility studies and the steps needed to pursue those studies.

iii. Mark Stevenson, Professor, Cornell University: Bio-crops and bio-fuels

Acting Commissioner Soares then introduced Dr. Mark Stephenson from Cornell University who came to present some aspects of bio-fuel production and integration with dairy farm production. Dr. Stephenson provided an overview of energy markets and the incentives for the increased interest in bio-fuels: increased energy prices, reliance on foreign energy supplies, increasing concern over the environment, and government incentives.

He then provided the Task Force with an overview of ethanol production. He noted that once the price of a barrel of oil crossed the $40 mark, ethanol becomes competitive. In addition, the renewable fuel standard created by the Energy Act provided benchmark capacity standards for ethanol production, a blender’s credit of 51 cents a gallon, and farm credit invested heavily in the construction of ethanol plants. As would be expected, the distribution of ethanol production is concentrated in the Corn Belt region of the U.S. That distribution is changing modestly with a significant number of ethanol plants being planned for the northeastern portion of the country. The renewable fuel standard calls for an increase in ethanol production capacity from 4 billion gallons in 2006 to 7.5 billion in 2012. Currently capacity stands at 6.5 billion gallons with another 6.5 billion under construction.

The impacts of such a significant increase in capacity for ethanol production on the dairy industry will be mixed but mostly negative. On the positive side, Dr. Stephenson stated that there may be a decrease in energy costs and quite possibly a cheaper source of feed in distiller’s grains. These, however, would be offset by increased corn grain costs and land values. He estimated the net impacts to be on the order of $1 to $2 per cwt increase in costs of production depending on management capabilities.

He summarized by noting that corn may not be the best input for ethanol production when net energy requirements are considered, but since the heavy investment in ethanol refinery plants, it will likely remain for another ten years. Dairy scientists are still low on the learning curve on efficient use of distillers grains as feed to dairy animals.

iv. William Moore, PPM Atlantic Renewables: further alternative energy options

Acting Commissioner Soares introduced Bill Moore from PPM Atlantic Renewables to present wind generating options. Mr. Moore gave some background PPM Atlantic Renewables and the various wind farm projects it has throughout the United States. He highlighted several projects in the northeastern portion of the country, particularly in Pennsylvania and New York.

He highlighted the Maple Ridge project in New York. This project cover a 12 mile by 4 mile area located in the towns Martinsburg, Lowville, and Harrisburg. In all there are 195 1.65 mega watt (MW) turbines, built on 74 different farms. Each 1.65 MW wind turbine powers approximately 600 average households. Mr. Moore noted the benefits of clean power and open space preservation. Open space preservation resulted from the $6,600 to $12,000 paid to farmers in royalties from having the turbines on the farm. The turbines took up less than 2% of the land on these farms and in the construction phase significant efforts were made to preserve the topsoil.

He further noted that Lewis County gained economically through job creation and tax revenues. He claimed that the project generated a $10 infusion into the local economy. It generated 350 jobs over a two-year period in constructing the towers and 15 to 20 permanent operating employees. The project generated $8.5 million in taxes and $2.0 million in royalties to the 85 farms that participated.

PPM Atlantic uses a joint venture business model wherein a utility, under any number of different ownership designations, agrees with a number of land owners to construct and manage the turbines. This includes construction and maintenance of roads and other infrastructure. For the use of the land, the land owner receives a royalty. This particular model takes the risk associated with construction etc, off the back of the farmer.

b. Panel Discussion on Energy Alternatives: Dr. Hagevoort, Mr. Jorgenson, Dr. Stevenson, Mr. Moore

The discussion ranged significantly because of the diverse topics involved. One of the primary concerns was economies of scale. Whether the scale involves wind, methane digesters, or bio-fuels, the question of whether Massachusetts has enough of the particular resource to make its application viable. Wind power generation is a prime example. When Mr. Moore was asked about the focus of PPM Atlantic's focus on New York and Pennsylvania, he stated that the wind resources are available in parts of those states. And while portions of Massachusetts are well suited to wind power generation, those areas are generally not co-geographical. The North and South Shore of eastern Massachusetts or Cape Cod are examples of areas where winds are conducive of a wind farm, but where agricultural activities, particularly dairy, are minimal. A map of areas with high winds overlaying areas of agricultural activity would be very useful.

Relative to manure digesters, economies of scale are again a significant barrier. Dr. Hagevoort provided examples of some of the large dairy farms in the New Mexico and California. In the Pecos Valley project the average herd size is 540 cows. Massachusetts has few farms that size. Mr. Jorgenson of SJH and Co. shows clusters of farms in various parts of the Commonwealth. There may be an ability to capture economies of scale, but the prospects are dim. Hauling manure to a central location seems limiting and to build a digester on each farm, particularly farms small of size creates significant barriers. However, SJH and Co's proposal before the Massachusetts Technology Commission may provide further information on feasibility.

Dr. Stephenson's presentation generated similar discussion. The obvious options for bio-fuel lies with the use of distillers grains since little opportunity exists supplying an ethanol plant with corn grain or some other organic matter. Even here, distillers grains are limited by proximity to a steady supply. Most ethanol plants are located in the Midwest and transportation costs are prohibitive unless a rail hub becomes available to Massachusetts. The closest hub terminates in Albany, NY.

Aside from these considerations, discussions turned to various electric utility ownership patterns such as that of PPM Atlantic. That is, opportunities may exist for municipalities to invest in alternative power generation with these alternatives and diary farms. The MTC may provide a conduit through funding and feasibility studies may be conducted. Such opportunities may provide joint venture capital between utilities and farms to induce farms to invest or to participate in such projects.

There seemed to be agreement that net metering standards needed to be addressed. Net metering provides an ability of a power generator to sell excess electricity back to the electricity grid. In essence, net metering allows the meter to run backwards. For any given month where excess power is sent to the grid, the producer of that power gets a credit at the wholesale price for the electricity sold back to the grid. The credits are calculated on a monthly basis.

Currently, net metering is only available to power generation of 60 kwh or less, while many technologies generate 1 mwh or more. Thus, net metering is unavailable to most alternative power generators. But even more critically, monthly net metering saves little for power generating technologies that have seasonal fluctuations such as wind, photovoltaic, or even power generated from a manure digester. At 6 cents a KWH, the credit earned during excess power generating seasons provides minimal benefits. Increasing allowable capacity and annual net metering or kwh banking are two possibilities worth exploring. Furthermore, the value of the electricity in terms of green credits provides a significant benefit to utilities that ought have additional benefits to the producer of the alternative electricity. Annual net metering or KWH banking are two possibilities worth exploring.

**Motion:** Mr. Greg Watson motioned to recess the meeting for lunch. Representative Bosley seconded the motion.

**Vote:** Unanimous

The meeting recessed at 12:01 P.M.

Acting Commissioner Soares called the meeting back to order at 1:45 p.m.

c. Direct Marketing and Promotion

i. Mark Stevenson, Professor, Cornell University

Acting Commissioner Soares, again, introduced Dr. Mark Stephenson to present information on value-added dairy (VAD) product production on the farm. Dr. Stephenson presented his study on VAD and began by providing the incentives that exist for dairy farmers to invest in VAD and these range from consumer demand for niche products and locally produced food to government incentives for farmers to engage in VAD.

Dr. Stephenson developed an electronic survey instrument to gather information from dairy farms that are involved in VAD and distributed the CD to regulators who regularly interact with VAD farmers. In all, 27 farmers returned information from three states: New York, Vermont, and Wisconsin. Seventeen farms were cows and 10 were goat or sheep. Most were located in Vermont but with an even distribution between New York and Wisconsin. Qualifications to this study include the inability to make general statements about VAD production because it was not a random sample and because of the small sample size. Furthermore, 17 respondents had initiated a VAD production operation within the last 3 years implying that the operation may still be in transition.

With those qualifications, Dr. Stephenson provided some results. Of the 17 dairy cow farms the average size was 42 cows, which is quite a bit smaller than the average for the states involved, but the range was substantial as was the capital investment for the VAD portion of the operation. (Dr. Stephenson reported the results on an enterprise analysis basis. That is, results for milk production and dairy product production were analyzed separately.) He noted that there were considerable labor requirements for VAD production and marketing—a point that many dairy farmers fail to consider.

Marketing and marketing channels is another aspect of VAD that many farmers are unfamiliar with. Often times moving a product through market channels presents a significant challenge because farmers no longer have the simplicity of dealing with a cooperative or other wholesale commodity channels. They now have to deal directly with retailers or wholesale supermarket suppliers or both to get the highest dollar for their product. Furthermore, they have to find other markets for a product that does not move through those channels. His results showed that nearly 30% of VAD production moves through wholesale markets.

The results on income and balance sheets were disappointing. Only one dairy cow VAD operation made a profit on both the milk production and the VAD production enterprise. Most operations reported a profit on milk production but a loss on the VAD enterprise. Furthermore, Dr. Stephenson reported that the breakeven point for the VAD enterprise was $100/cwt, and noted that farmers are often reluctant to charge that kind of price for milk. Therefore, the commodity milk production often subsidized the VAD enterprise, yielding positive results for the operation as a whole. Only four operations had positive returns on VAD assets.

In summary, Dr. Stephenson noted that operations were quite diverse, that making money in VAD production was not a given and that operations could and sometimes do lose money. He advised considerable planning not only in the investment of equipment but also in marketing. Finally, the time commitment is considerable and must be considered in taking such an operation.

ii. Ed Maltby, Organic Dairy Farming

Commissioner Soares introduced Ed Maltby, Executive Director of the Northeast Organic Dairy Producers Alliance who presented information on organic milk production as a viable alternative. Mr. Maltby provided background into organic dairy production beginning with the general advantages to organic milk production which include a more stable or predictable price, a better lifestyle, lower debt and capital requirements, and more control over costs and returns. He also noted that the demand for organic milk has increased to a point where it is no longer a niche market commodity. As evidence, Mr. Maltby declared that organic milk comprises 3% of total fluid milk consumption and amounts to a $7 billion industry.

He further itemized the common myths associated with organic milk production such as an ever-weakening market, lack of information to make informed decisions, difficulty in segregating and transporting farm milk, and lack of organic feed. Each of these myths was addressed with data refuting these myths.

Mr. Maltby emphasized lifestyle and better use of pasture resources for rotational grazing. The capital costs associated with rotational grazing are significantly less than conventional milk production. He noted a Cornell University study showing that rotational grazing systems cost, on average, approximately $386 per cow per year less than conventional milk production.

iii. Deb Duprey, Our Family Farms co-packing model

Deb Duprey from the Pioneer Valley Milk Marketing Cooperative (PVMMC) described the co-packing model. PVMMC incorporated in 1997 with the intention of segregating the milk from several farms transporting that milk to a local processor. The processor would pasteurize and package the milk under the label of Our Family Farms of Western Massachusetts for a fee charged to the PVMMC. The members of PVMMC would then be responsible for distributing the milk.

Under this model, the members of PVMMC would capture the gains from selling at retail. The gains would be distributed to members according to the effort put into marketing the product. Ms. Duprey reported that when Class I prices are high, the returns to the PVMMC are limited, but when Class I prices are low, the returns are considerably higher. She reports that the model has worked reasonably well thus far.

iv. John Kokoski, Mapleline Farm, Producer Dealer

John Kokoski, proprietor of Mapleline Farm, described his business as a producer dealer. A producer dealer is a farmer who produces his milk and then pasteurizes and packages that milk for retail outlets. John described how Mapleline Farms has evolved over the years that it's been in business. He began in much the same way as PVMMC in that he produced his milk, shipped to a small local processor, who pasteurized and packaged the milk for a fee. He would then distribute his own milk. John decided to package his milk in glass bottles.

Over time, it became apparent that he could become more efficient by establishing the processing on his farm. So, he purchased the equipment from the processor he was shipping his milk to and moved it to his own farm. The venture has provided adequate returns. Furthermore, his son has joined the business with a home delivery business that began with 100 customers and has grown to nearly 600 customers.

v. Voluntary Contribution Program

Assistant Commissioner Kent Lage provided an explanation of what is being called a voluntary contribution program. Specifically, he noted that considerable evidence exists that supports the conclusion that Massachusetts milk consumers would be willing to pay an extra 10 or 20 cents for milk if they knew that the funds went directly to assisting local dairy farms.

If a method could be found to allow consumers the ability to make such a contribution on a voluntary basis, then such funds could be used to support dairy farms when milk prices fall below some target level. He showed that if just 20% of the consumers in Massachusetts made such a contribution, dairy farmers could be supported at the rate of a about $1.00 per cwt. The State of Vermont is about to release a report on a study of the willingness of consumers to pay. Acting Commissioner Soares reported that Secretary Albee will be presenting the results of that study at the next meeting.

vi. Michael Johnson, USDA, Dairy Promotion Program

Acting Commissioner Soares then informed the Task Force that Mr. Johnson was unable to attend the meeting. He turned to Dr. Gillmeister for further information on this matter. He reported that Mr. Johnson was invited to provide the Task Force with information about the Dairy Promotion and Research Order and whether Massachusetts had the ability to establish a dairy promotion program. Under the Order, each dairy farmer that produces milk and markets that milk must remit 15 cents per cwt to the National Dairy Promotion and Research Board. Farmers my get up to a 10 cent credit if they participate and contribute to a qualified state or regional dairy promotion program. Dr. Gillmeister presented the Task Force with the information Mr. Johnson had provided. If a state passes a law establishing a promotion program, the state may apply to make the program a qualified promotion program. Once it becomes a qualified program, Massachusetts milk producers and possibly others could participate in the state program and have more control over their check-off dollars.

vii. Brian Houghton, Massachusetts Food Association, Couponing and Promotional Programs

Acting Commissioner Soares reported that Mr. Houghton was unable to attend the Task Force meeting.

c. Panel Discussion on Direct Marketing and Promotion

The panel discussion was wide ranging but centered on some key issues. There seemed to be considerable agreement among the panelists that these alternatives, whether one considers organic milk production or value added, were not for everyone. Contrary to the results of Dr. Stephenson, Mapleline Farm and Our Family Farms continue to perform reasonably well and have been in existence for a considerable period of time. Consistent with Dr. Stephenson’s results, the participants agreed that the time commitment is considerable and that the marketing is very important.

Regarding a state-run plant, such a plant would run the risk of coming into direct competition with other producer dealers such as Mr. Kokoski and Mapleline Farms. It was noted that there were approximately 17 producer dealers in Massachusetts, which is a significant number given its size. Mr. Kokoski noted that there is excess capacity among the producer dealers that currently exists. Mrs. Duprey noted that PVMMC is considering plans to put up their own plant.

Recommendations that came this discussion were identified primarily as providing transition assistance as well as resources for planning. Mr. Maltby noted that the transition to organic takes about three years, and financially this is the most difficult period. Assistance during this time is critical. He did note that even processors offer assistance for the transition because the demand for local organic milk is so strong. Dr. Stephenson also stated that collecting resources and information on processing equipment and regulatory activities is important in assisting dairy farmers interested in moving into VAD production. It was noted that current programs such as the Farm Viability Program and USDA cost share programs currently offer assistance such ventures.

**4. New Business:**

Acting Commissioner Soares stated that a Matrix compromising the Ideas and possible recommendations of the task force is to be made available to the task force before the week ending September 9, 2007. The Task Force will discuss this Matrix with the end goal of making a final recommendation to the legislature from it. This discussion will incorporate a substantial period for public comments.

**5. Public Comment:**

Since the public was invited to comment during the open discussions, there was no formal public comment period held.

**6. Adjourn:**

**Motion:** Mr. Greg Watson moved and Representative Bosley seconded a motion to adjourn.

**Vote:** Unanimous

The Meeting adjourned: 4:30 p.m.